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List 6

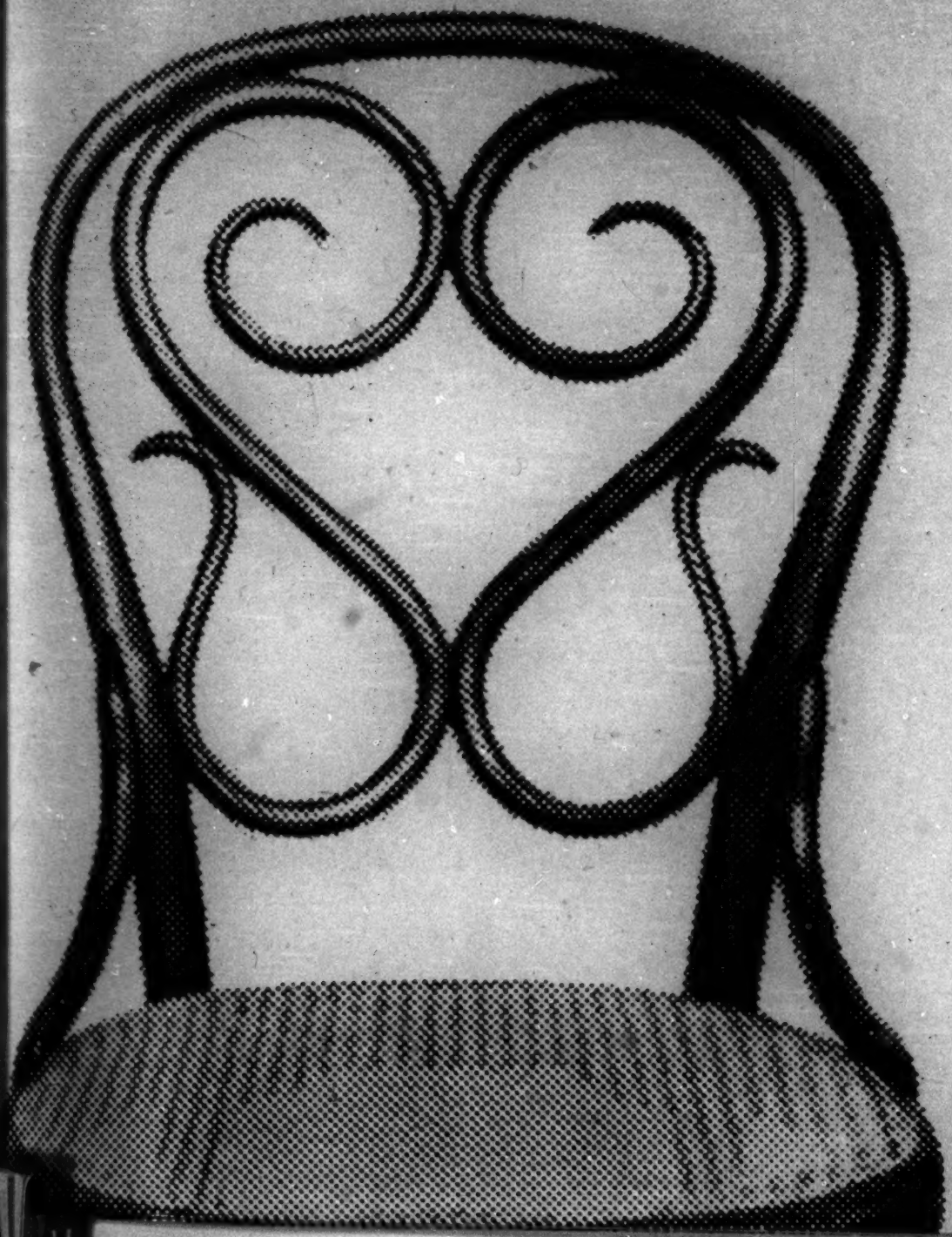
Bethnal Green Museum

Bentwood Furniture

The work of Michael Thonet

Branch

1968



Bentwood Furniture
The work of Michael Thonet

An exhibition designed by the
architects Karl and Eva Mang
originally shown at the
Austrian Building Centre, Liechtenstein Palace, Vienna

Bethnal Green Museum
29 May — 30 June 1968

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Michael Thonet had been in the service of the famous furniture company of Carl Leistler in Vienna during the years 1843-46 and had assisted in the furnishing of the Liechtenstein Palace. Thonet's own furniture was shown at the first great world exhibition, held in the Crystal Palace in 1851 and was awarded a medal of merit. In 1854 the firm of Thonet was awarded a First Class Prize Medal at the Exhibition in Munich and in the following year gained a similar award at the Paris International Exhibition. The climax of this early success was reached at the International Exhibition in London in 1862 when the German edition of the catalogue included a contemporary portrait of Thonet and William Ham, the author of the text, expressed the belief "that here was an essentially German industry, which would have a very strong influence in other countries". The chairs, armchairs, sofas and tables were generally agreed to be most attractive, the Thonet process giving the furniture lightness and stability as well as increased elegance.

Michael Thonet had in fact produced bentwood furniture as early as 1830. In 1842 he received from the Chancellery of Vienna a patent for the 'supply of the best quality of wood in selected shapes and curves, by chemico-mechanical means' having by this date found a protector and benefactor in State Chancellor Prince Metternich who induced Thonet to move from his birthplace, Boppard-on-Rhine to Vienna. After working there with Carl Leistler, Thonet and his sons established their own business in 1849 and in 1853 the concern was renamed, Thonet Brothers.

From 1848 Austria became increasingly industrialised. All commercial enterprises were supported by the State and progress was encouraged by the introduction of mechanisation in many industries. Michael Thonet was one of the pioneers and in 1856 he installed machinery for mass production in his factory at Koritschan. All types of bentwood furniture could be produced from one large piece of timber. In 1859 the famous chair No. 14 was first made at Koritschan of which 50 million were made by 1910 making it one of the

most successful of all Austrian industrial products. The first rocking chair in bentwood was made at Koritschan in 1860 of which 20,000 copies were made annually. Michael Thonet's furniture was exclusively made of beechwood so that the first factory was established in an area of beechwood where labour was also available. Further factories in similar sites were established in Bystritz-am-Holstein, Grosz-Ugrocz in Hungary, Hallenkau, Radom in Russian Poland and finally at Frankenberg, Hesse. When Michael Thonet died in 1871 he left his sons an undertaking that was in the forefront of Austrian industry. By 1900 the company employed over 6,000 workers; 20 steam engines totalling 11,000 horse power produced 4,000 pieces of furniture daily.

The patent granted on 10th July 1856 to Thonet Brothers guaranteed sole production rights until 1969 for 'the finishing of chairs and tables out of bentwood, the bending of which is achieved by the introduction of steam or boiling liquids'. When the patent lapsed competitors appeared, copying most of Thonet's designs. By about 1900, 26 companies in 35 factories with some 25,000 workers daily produced 15,000 varied items of furniture of which some 12,000 were chairs. About one third of the total Austro-Hungarian production of bentwood was sold at home and two thirds were exported. In 1899 the annual production amounted to 18 million crowns and the total exports were 143,228 kilos. These figures increased until the outbreak of the First World War. In 1901 there were 52 companies with more than 35,000 workers in 60 factories using the Thonet patents.

Dr. Wilhelm Mrazek

After the Industrial Revolution, nineteenth century design and manufacture were characterised by two opposing forces which despite frequent attempts by others seem only to have been reconciled in the work of Michael Thonet. On the one hand, there was an ingenious and pioneering spirit determined to overcome all technical obstacles, and on the other, the craft guild system with its underlying motive of social benefit based on the theories of William Morris who sought a cure in craft work for the alleged social injustice of the machine age.

Michael Thonet had a craft background and the furniture which he produced in his small Rhineland workshop was much in demand. The transition to industrialisation only came when the idea of bending wood mechanically for quantity manufacture of furniture became a practical proposition. In the work at the Liechtenstein Palace in Vienna in the years 1843-46, chair types were evolved whose shape was developed entirely from the technical solution of the design problem–though they were entirely hand made. With their elegant form and clean lines they proved to be some of the best furniture produced in the nineteenth century. Similar chairs were later made by the famous firm of Carl Leistler under whose name Thonet worked at the Liechtenstein Palace.

The chairs made for the Great Exhibition in 1851 contain the basis of the later industrial chair, especially in individual parts such as the chair backs. The triangular connection between the front legs and the seat framing demonstrated an interesting craft solution to a problem which was still fully in use in many types of chair in the industrial range (No.13) up to about 1875. Various types of industrially produced furniture were evolved by Thonet from these original rosewood 'luxury furniture' pieces.

The first factory was built on a site near copper beech forests, a type of timber which was especially suitable for the manufacture of bentwood furniture. Production boomed and the increased demand itself helped to solve some of the

technical difficulties. (Exports to South America where the climate was excessively humid, often necessitated the use of four or five thicknesses of veneer.) In 1860, chair No. 14 was produced. The 'consumer chair' was born. The problems of mass production were solved in the simplest manner. The chairs could be despatched in parts, assembly consisting of screwing the parts together. The chairs were light, strong and by tightening the screws could easily be repaired. They were just what was demanded by the social theories of Morris and Van de Velde—a piece of furniture that anyone could afford.

Tradition has it that it was August Thonet who, in a corner of the factory with a few colleagues, developed such simple and practical designs that they have continued as best sellers even up to our own times (we think particularly of armchair No.3, writing chair No. 9, and rocking chair No. 1). From the few catalogues available, it appears that simplification of production soon led to the elimination of those designs in which individual parts were too like handicraft. With the introduction of chair No. 56 (1885), an even simpler use of material was achieved. The length of the necessary knot free timber was reduced by half. A result of these experiments was chair No. 221 which combines the comfortable back rest with shapes which suggest the second Rococo period. Previously this type was considered uncomfortable as part of the back rest was inclined to cut into the sitter. No. 221 and its successors was of a type in Viennese cafés towards the end of the century.

The Thonet catalogues of the period show furniture of all kinds whose shapes are often in marked contrast to the 'classic' lines of chair No. 14. The pioneer spirit of Michael Thonet is traceable throughout all this development. Adolf Loos and Corbusier used Thonet as a model and acknowledged the importance of his work. The Post Office chairs of Otto Wagner were 'bent' at Thonet's works and Josef Hoffmann and his successors of the Vienna School continuously explored the possibilities of bentwood furniture. The Thonet organization remained true to its pioneering

spirit. In the Bauhaus period, the tubular steel was modelled on the same tyle and method as 'bentwood'.

The decisive achievement, however, remains the 'consumer chair' used not in salons and drawing rooms but in cafés and in the ordinary homes. Simple construction and economic use of materials made mass production possible as early as 1860 and produced chairs which fulfilled the requirements of the new found mass market.

Karl Mang

Chronology

2nd July 1796	Michael Thonet born in Boppard/Rhine-Prussia.
1819	Independent business as carpenter, joiner and furniture maker in Boppard.
1830	Experiments in making furniture from parts glued to each other.
1841	Patents taken out in France, England and Belgium (not utilised). Exhibition at Coblenz. Thonet's work brought to the attention of Prince Metternich and his designs introduced to the Austrian Court at Johannisberg Castle.
16th July 1842	Awarded patent from the Royal Court in Vienna. Later in the year financial difficulties over patents led to the confiscation in Frankfurt/Main of furniture intended for the Court in Vienna at the instigation of creditors. Loss of living and fortune in Boppard led to the emigration of the Thonet family to Vienna.
1843-46	Michael Thonet worked under Carl Leistler on the furnishing and decoration of the Liechtenstein Palace (architect: P. H. Desvignes)
1849	Self employed in Vienna. Chair No. 4 (made from 4 or 5 thicknesses of mahogany). First order of chair No. 4 for Café Daum.
1851	Thonet furniture shown at the Great Exhibition London ('Luxury Furniture').
1853	Firm handed over to the five sons, Franz, Michael, August, Josef and Jacob but Michael Thonet remained in control.
1855	Thonet furniture shown at the Paris International Exhibition. First export order to South America.
1856	Michael Thonet and his sons assume Austrian citizenship. First Thonet furniture factory at Koritschan, Moravia designed by Michael Thonet.
about 1857	Principles or organisation established; division of labour, introduction of machinery often of own invention and design.

about 1859	Furniture parts made from solid pieces only.
1859	Chair No. 14 (total production about 50 million).
about 1860	Manufacture of cartwheels from bentwood.
1860	First Rocking Chair No. 1.
1861	Factory in Bystritz-am-Holstein.
1862	'Cheap Consumer Furniture' shown at the International Exhibition, London.
1865	Factory at Grosz-Ugrocz.
from 1867	Deliveries of beech from Galicia for the Thonet factories.
1867	Factory and sawmill at Hallenkau, Wsetin.
1867	Chair No. 18.
1869	Expiry of the patent—first competitive companies.
3rd March 1871	Death of Michael Thonet.
1880	Factory at Nowo-Radomsk (Russian Poland).
1885	Chair No. 56.
1888	Theatrical folding chair for the Volkstheater, Vienna.
1890	Factory at Frankenberg, Hesse.
1870-90	Leasing of a number of sawmills.
about 1871	Sales establishments in: Prague, Graz, Munich, Frankfurt/Main, Rome, Naples, Barcelona, Madrid, Bucharest, St. Petersburg, Moscow, Odessa, New York and Chicago.
1898	Chair No. 221.
1923	Merger 'Thonet-Mundus'.

Michael Thonet's first experiments were made with the top and central rear loops of chairs which connected the sides and formed the back. The process was as follows: the backs, which had previously been carved out of large single pieces of timber and inlaid with silver pine, were, in the Thonet method, composed of thick layers of veneer which were glued together in a wooden template and pressed, the template being made to the desired final shape. This meant a more economic use of bulk timber and the result was, in spite of its lightness, more durable. The outside could be covered with a good veneer whilst the inner laminations were made from ordinary wood. The arms were likewise glued and pressed. In the more elaborate types of chair, thin finished veneers were specially glued and pressed in hollow metal templates, instead of being carved from the solid.

After perfecting the method of forming chair backs, Michael Thonet set out to produce chair sides also out of strips of veneer. These were made in such a way that the sides, back, and front legs consisted of a continuous piece. The top and middle rear loops of the early bentwood chair were thus of veneers glued and pressed in wooden templates, a process in which the veneers were soaked in glue and pre-shaped. On the other hand, the chair sides were still made from thick wooden rods which were first heated to boiling point in a glue bath to make the wood pliable.

Herman Heller

The desire to simplify the process and the difficulty of removing moisture from furniture timber led to further development. Thonet succeeded in bending large pieces of wood by immersing thick struts in boiling water and putting them in bent templates which together with the bent struts, were put into a drying room for several days until the moisture was sufficiently reduced to ensure the retention of the bent shape. Then the bent parts were slid into presses which were designed to enable the warm air to come into contact with the maximum surface area of the wood in order to expedite thorough drying. Only now after the individual parts were thoroughly dry, were they coated with glue in their warm state and pressed into their final shape. Thus the glue had to take only comparatively little strain.

The most significant phase in the history of the industry had now arrived. Thonet used the following method: on to the straight unbent strut, on the ultimate convex side, an iron strip was laid and fixed at several points and at either end with screw clamps, rigidly and firmly connected to the wooden rod. Thus, when the wood was bent, it could not bend more than the metal strip itself, and could barely increase in length. In order that it could be bent at all, the entire wood section was in compression and this increased the further it was from the metal strip or the nearer to the concave surface. No longer was part of the wood in tension and part in compression; the metal strip in its firm connection forced the entire section into compression.

From **Wilhem Franz Exner** *The Bending of Wood*
Leipzig, 1922